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Attitude Transference among Adolescents: The Relationship between Injunctive Classroom Norms and Individual Antisocial Attitudes

Abstract

Cognition plays a major role in the development of antisocial behavior. The aim of this study was to extend the current state of research regarding the mechanisms of negative peer influence in adolescence by testing whether aggregated classroom attitudes (injunctive norms) predict individual attitudes towards antisocial behavior and vice versa. For that purpose, attitudes towards a broad range of aggressive and delinquent behaviors were assessed in 864 lower secondary school students in Switzerland. The survey took place at four measurement points, spanning Grade 7 to Grade 9. The reciprocal influence between group norms and individual attitudes was tested in a lagged multilevel model for change. Results indicated that injunctive classroom norms predicted subsequent individual attitudes but that individual attitudes did not predict subsequent classroom norms, even if student's social dominance status was included in the model as a moderator.

In adolescence, young people become more and more independent and less controlled by their parents, which corresponds to a weakening of social constraints and a wider range of behavioral freedom. At the same time, peers become a more important source of influence. This is a crucial process that helps adolescents develop their social skills in a group outside their family of origin (Rubin, Bukowski, & Parker, 2006, p. 571). For example, Allen and Antonishak (2008, p. 157) found evidence that the peer group plays an important role in transmitting prosocial norms. However, if these norms contradict conventional values, then negative peer influence is likely to occur. Hence, when trying to explain antisocial behavior, association with peers who approve of or engage in such behavior might be a key predictor for individual antisocial development (Dishion & Tipsord, 2011; Dodge, Dishion, & Lansford, 2006; Thornberry, 1987). Antisocial behavior is defined as "recurrent violations of socially prescribed patterns of behavior" (Simcha-Fagan, Langner, Gersten, & Eisenberg, 1975, p. 7) and is proposed to include "physical or verbal abuse of a person, damage to or theft of property, or victimless clandestine juvenile behaviors such as truancy and drug or alcohol use" (Loeber, 1985, p. 77). As these behaviors are among the most frequent and serious mental health issues experienced by children and adolescents (Ihle & Esser, 2002; Kazdin, Siegel, & Bass, 1990), it is important for the processes underlying negative peer influence to be well understood.

The aim of this study was to add to this understanding by investigating the cognitive predispositions of antisocial behavior, namely the formation of antisocial attitudes. While there is well-established evidence that antisocial attitudes are a predictor of future behavior (e.g., Engels, Luijpers, Landsheer, & Meeus, 2004; Guerra, Williams, & Sadek, 2011) and that the reverse is also true (i.e., that current behavior predicts antisocial attitudes; see, e.g., Hansen & McNeal, 2001; LaBrie, Hummer, & Lac, 2011), many questions regarding how attitudes are formed and changed by interactive processes within a peer group remain unanswered.

Group-Level Attitudes as Injunctive Norms

An attitude can be defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 3). Thus in this study, the entity that was evaluated is antisocial behavior (e.g., how acceptable it is to behave in a rule-breaking way). When referring to group-level attitudes, it is important to distinguish between two types of group norms. While *descriptive norms* are defined as the behaviors that group members usually engage in, *injunctive norms* are prescriptions about behaviors that are accepted by or even demanded within a group (Cialdini, Kallgren, & Reno, 1991; Cialdini, Reno, & Kallgren, 1990). According to Shaffer (1983), an essential part of the definition of social norms is that they are regarded as *pre*scriptions rather than mere *de*scriptions, and that conforming behavior will be reinforced whereas non-conforming acts will be negatively sanctioned. Further, there should be consensus between group members about what is normative. Hence, under the terms of this definition, in the present study it is not the individual's perception of peer group norms that is of interest, but rather the statements of all group members taken together.

Attitude Transference

When considering why individual attitudes towards antisocial behavior may be influenced by the peer norms, it is important to note that adolescent peer socialization includes a broad set of psychological processes (for an overview, see, e.g., Brown, Bakken, Ameringen, & Shelly, 2008). Many of these processes relate specifically to the developmental period of adolescence, which is characterized by cognitive, physical, and sexual maturation. While the resulting autonomy of adolescents brings increased opportunities, this change can also be demanding as individuals have to define their place in larger society and in their proximal social environment. The peer group can be helpful here, as peers allow for social comparison with similar others and provide room for experimentation with different social roles (Warr, 2002). In this context, trying out what are considered adult-like behaviors and attitudes can serve one or more social functions, such as entry

into cliques and new peer relationships (e.g., Engels & ter Bogt, 2001). Not surprisingly, experimenting with deviance contributes to increased popularity among peers (LaFontana & Cillessen, 2002). Adapting individual attitudes to match those of peers is thus often related to adolescents' motivation to develop a social identity and improve social status.

In this context, social learning of attitudes represents one central mechanism for what Brown et al. (2008, p. 24) called "multiple modes of peer influence." Specifically, the principle of attitude transference is based on the assumptions of the theory of differential association (Sutherland, 1944) and its further developments, differential association reinforcement theory (Burgess & Akers, 1966) and the social learning theory of crime and deviance (Akers, 2009). According to these theories, adolescents learn which behaviors are positively reinforced or negatively sanctioned by the group through interactions with their peers, and subsequently build their attitudes based on these experiences. There are multiple methods by which attitude transference can occur within communicative processes. When engaging in deviant talk, for example, adolescents exchange ideas on how to perform deviant acts or tell each other about earlier deviant acts, which is followed by reinforcing reactions from their peers (for an overview, see Dishion & Tipsord, 2011). These mechanisms may lead to individual adoption of peer norms, which in turn provides a cognitive predisposition for exhibiting antisocial behavior (Kobayashi, Akers, & Sharp, 2011).

It is important to note that transference does not mean that the individual is a passive recipient of group norms; rather, attitudes are formed by interactive processes between group members. It can therefore be expected that while a single person is influenced by a group, he or she in turn also contributes to shaping the normative climate of the group (Kobayashi et al., 2011). However, the person's influence is thought to differ in terms of individual characteristics. When examining processes of influence, social dominance might be an important factor to include. It could be expected that increased social dominance increases an individual's influence (Jonkmann,

Trautwein, & Lüdtke, 2009), as social dominance is characterized by being socially central and having the ability to control social resources, such as influence and attention (Hawley, 1999).

Empirical Evidence for Attitude Transference in Adolescent Peer Groups

Attitude transference among adolescents has been investigated with regards to different aspects of antisocial behavior. When considering research on *bullying* and *aggression*, Almeida, Correia, and Marinho (2009) found a significant relationship between peer group norms and individual attitudes, in a cross-sectional study on bullying among sixth to ninth grade students. Furthermore, cross-sectional studies with college students indicated that peer group norms are predictive of individual attitudes regarding dating violence (Silverman & Williamson, 1997; Swartout, 2012). However, in these studies norms were not measured at the group level (i.e., as aggregated statements of all group members), but instead as an individual's perception of these norms. In contrast, Henry and Chan (2010) used classroom aggregates of attitudes towards aggression among middle school students (see also Henry et al., 2000, with regard to elementary school students) to examine cross-sectional and longitudinal relationships between group norms and individual attitudes, and found that only the cross-sectional effects were significant. Similar results were found when using aggregated measures of the entire school instead of classrooms (Henry, Farrell, Schoeny, Tolan, & Dymnicki, 2011). In another study by Busching and Krahé (2015), longitudinal effects of classroom-aggregated norms on future individual attitudes were found among a sample of lower secondary school students.

With regards to *delinquency,* Kobayashi et al. (2011) examined attitude transference in a cross-sectional study using a sample of university students. Respondents were asked about their attitudes towards illegal and less serious rule-breaking acts. The authors interpreted the significant relationship between peer group norms and individual attitudes as past attitude transference (i.e., attitude transference that occurred prior to survey administration). Using a similar design with a sample of adolescents, Ruiselová and Urbánek (2008) found the same effect. Both studies used

individual perceptions of group norms rather than group-level measures. It should be noted that Kobayashi et al. performed further analyses on a subsample of U.S. and Japanese students to investigate differences in attitude transference regarding delinquency between individualistic western cultures and more collectivistic eastern cultures. They expected that peer influence would be weaker in an individualistic cultural context, as there are more disciplinary sanctions and control by parents, and thus a decreased impact of peer influence. However, the findings revealed no difference between the two cultures with regard to peer influence. Based on this study, it can therefore be assumed that peer attitudes are an important predictor of individual attitudes towards delinquency in both western countries with a highly individualistic culture and eastern countries with a more collectivistic cultural context (for a general discussion on this issue, see also Bukowski, Velasquez, & Brendgen, 2008, p. 137).

Furthermore, several studies examined the influence of group norms on *substance use*, including alcohol consumption (e.g., Scheier & Botvin, 1997; Webb, Baer, Getz, & McKelvey, 1996), tobacco use (e.g., Lorenzo-Blanco, Bares, & Delva, 2012), and drug use (e.g., Sellers, Winfree, & Griffiths, 1993; Towberman & McDonald, 1993; Wallace & Fisher, 2007) among adolescents and found evidence for attitude transference. In these investigations peer group norms were measured by individual perception. While most of these studies used a cross-sectional design, Scheier and Botvin (1997) found an effect of perceived friends' attitudes towards alcohol consumption in eighth grade on individual attitudes in ninth grade, which in turn predicted actual consumption in tenth grade. However, as the authors only controlled for baseline individual consumption but not for baseline individual attitudes, the explanatory power of these results regarding attitude transference is limited.

In addition to these general effects of group norms, Cohen and Prinstein (2006) included the concept of peers' social status in their analyses to predict attitudes towards physical and verbal aggression, vandalism, and drug consumption among adolescents. The study used an experimental

design to lead students to believe that they were interacting with a group of three other students whose social status was either high or low. In accordance with the prior suggestions regarding the role of social dominance, results indicated that subjects were more likely to adapt their own attitudes to approximate those held by high-status peers than to those held by low-status peers.

Conceptual and Methodological Issues Worth Considering

In general, the abovementioned studies indicate that there is a relationship between peer group norms and individual attitudes. Nevertheless, there are several open questions that are related, for example, to the heterogeneously-defined concept of group norms. Most studies used adolescents' perception of desirable behavior within the group, which is an individual measure and does not represent the actual normative context (Shaffer, 1983). However, research on social norms indicates that individuals often overestimate their peers' antisocial attitudes and behaviors, which leads to biased measures of the normative context (for an overview, see Berkowitz, 2005). Moreover, while most investigations asked participants about their peers in general or about their best friends, to our knowledge only a few researchers have focused specifically on entire classrooms (Busching & Krahé, 2015; Henry & Chan, 2010; Henry et al., 2000). In addition to the fact that classmates are generally known to be a major source of influence on adolescents (Reinke & Walker, 2006), the involuntary nature of classroom composition allows researchers to avoid conflating selection (i.e., individuals tend to associate with similar others) with socialization (i.e., peer influence). In fact, examining the effects of classroom norms on individual attitudes provides an occasion to investigate "mere exposure effect" (Juvonen & Galván, 2008), as selection can be ruled out in this setting.

With regards to the research designs used in the existing literature, in our view there are still too few longitudinal studies that control for adolescent development over time. Cross-sectional studies can reveal the relationship between peer group norms and individual attitudes at a given point in time, but temporal order and change provide important additional information about attitude transference. Furthermore, none of the studies mentioned above accounted for a possible reciprocal influence

between group norms and individual attitudes. For example, it would further be of interest to consider whether the social dominance of an individual affects his or her influence on group norms (Jonkmann et al., 2009).

The Current Study

The aim of the current study was to examine if individual attitudes towards antisocial behavior are influenced by injunctive classroom norms through the process of attitude transference and if there is a reverse effect of the individual's attitudes on classroom norms. Furthermore, the study investigated if the strength of the individual's influence depends on its level of social dominance. To answer these questions, longitudinal reciprocal effects between classroom-aggregated attitudes and individual attitudes for a broad range of antisocial behaviors were analyzed. Specifically, aggression and delinquency were the two main behavioral domains of antisocial behavior that were considered. As data for entire lower secondary school classrooms were collected, it was possible to include the statements of all students within each classroom so as to create an adequate measure of injunctive norms. According to the Swiss local school system, students remained in self-contained classes throughout lower secondary school for nearly all of their courses. Hence, for every student there was only one classroom context for which normative influence had to be analyzed. Further, using longitudinal data with four points of measurement across three school years allowed us to control for change over time. With respect to whether or not mutual influence exists in attitude transference, both the effect of groups on individuals and the reverse effect (i.e., the influence of individual attitudes on classroom norms) were investigated, with students' social dominance included as a moderator.

In all statistical models, gender was added as a control variable to account for potential differences between boys and girls in terms of antisocial attitudes and peer influence susceptibility. Previous studies have shown that boys tend to express a more positive attitude towards antisocial behaviors than girls (Mears, Ploeger & Warr, 1998). In contrast, there are still contradictory findings

on the question of whether boys and girls differ in peer influence susceptibility (e.g., Allen, Chango, Szwedo, Schad, & Marston, 2012; Mears et al., 1998; Schulenberg et al., 1999). Gender was thus controlled for in statistical analyses in order to prevent it from confounding the results.

In accordance with the theoretical and empirical background, we hypothesized that the more positive the classroom-aggregated attitudes towards antisocial behavior (i.e., injunctive norms) on a given occasion, the more positive an individual's attitudes at the next occasion (1). A reverse effect was also expected, namely that the more positive an individual's attitudes towards antisocial behavior on a prior occasion, the more positive the injunctive classroom norms at the next occasion (2). Furthermore, the effect of individual attitudes was assumed to be stronger for more socially-dominant individuals (3).

Methods

Participants

For the following analyses, data of the "Fribourg Study on Peer Influence in Schools" were used. In this longitudinal survey in the German-speaking part of the Swiss canton of XX, the complete cohort of students (who transitioned to secondary school in 2011) was followed from Grade 7 to Grade 9. For the current investigation, four data collection time points were included (i.e., at the beginning of Grade 7, at the end of Grade 7, at the end of Grade 8, and at the end of Grade 9). The first time point was in September 2011, four weeks after the beginning of secondary school, so that students had some time to become familiar with their new classmates. The sample's mean age was 13.12 years (SD = 0.48) at time point 1 (T1), and 52% of participants were boys. The study sample included all students from eight schools and 55 classrooms who participated at least once during these data collection occasions (n = 864). Due to the support provided by the school authorities, participation rates were high (T1: 96.9% out of N = 828; T2: 96.3% out of N = 821; T3: 94.2% out of N = 831; T4: 81.5% out of N = 812). The statistical procedures used for the analyses controlled for attrition and participants who joined the study at a later point in time (for greater

detail, see Statistical Analyses). Most students came from rural regions (only one school was located in a town with greater than 10,000 inhabitants). Furthermore, as a rough approximation of immigration background, we collected participants' self-reported information as to whether they owned a foreign passport (possibly in addition to a Swiss passport). That was the case for 23% of the sample. Socio-economic status was measured by the international socio-economic index of occupational status (ISEI; Ganzeboom & Treiman, 1996) and referred to the higher-rated occupation of the two parents. The average ISEI in the sample was 49.23 (*SD* = 16.04), which corresponds to the national Swiss average (Vallacott, Hollenweger, Nicolet, & Wolter, 2003). Regarding academic track, students were grouped according to achievement criteria into *Progymnasium* (advanced track), *Sekundarschule* (general track), *Realschule* (basic track), and special educational classes for students with learning disabilities. Students remained in their self-contained classrooms and were taught by different subject teachers, with one teacher taking responsibility for each classroom.

Measurement Instruments

Attitudes towards aggressive and delinquent behavior. Attitudes towards antisocial behavior were measured with the self-report version of the Fribourg Self- and Peer-Report Scales – Antisocial Behavior (FSP-A; Müller, 2013) on all four occasions. In accordance with Eagly and Chaiken's (1993, p. 3) definition of attitudes, students used a 5-point Likert scale to evaluate whether or not they approved of specific behaviors (0 = *uncool* and 4 = *cool*). The statements they rated followed the format, "If people my age do something like this (the behavior of interest), I find it…" The concept of *coolness* was used as an affect-oriented approach to assess attitudes, as opposed to asking if participants believed that it was right or wrong to behave in a certain way. It can be assumed that while most adolescents know what is morally right and wrong, they might still consider it cool to drink alcohol or to be aggressive towards others, for example. Hence, if participants are asked to evaluate a behavior based on their emotions, this formulation might reduce social desirability bias, as well as conflating attitudes with mere knowledge about socially acceptable behavior.

The aggression scale consisted of nine items regarding direct aggression (e.g., hitting, pushing around, threatening, annoying, and insulting others), indirect aggression (e.g., spreading rumors about others, and playing someone off someone else), and opposition (e.g., fierce arguments with others or feeling very angry). The delinquency scale contained 11 items concerning minor to severe delinquent acts, such as consuming alcohol or drugs, dodging fare payment on buses, trains etc., skipping school, destroying others' belongings, shaking somebody down, engaging in theft, or public vandalism.

Items on the FSP-A corresponded to the definition of antisocial behavior mentioned above (Loeber, 1985, p. 77; Simcha-Fagan, Langner, Gersten, & Eisenberg, 1975, p. 7). Empirical evidence on the validity of the FSP-A subscales was provided by factor analyses (Müller, 2013). In that study, based on a sample of n=552 seventh to ninth graders, a two-factor structure that distinguished between aggression and delinquency was found, which corresponded with the theoretical framework. As expected, evaluation of the FSP-A showed that self-reported attitudes correlated moderately with self-reported aggressive (r = .44; p < .01) and delinquent behaviors *(*r = .51; p < .01). Cronbach's alphas were between α =. 84 (aggression) and α = .89 (delinquency), which indicated that the scales were reliable (for more details, see Müller, 2013). Similar results on the psychometric properties of FSP-A were found using our own data. For example, across all four measurement occasions, the Cronbach's alphas of the aggression scale were between α = .87 and α = .93, and those of the delinquency scale between α = .85 and α = .92.

Injunctive classroom norms. To measure classroom normative influence, individual attitudes were aggregated at the classroom level (i.e., mean approval of aggressive and delinquent acts within the classroom) at all four data collection time points (see also Araos, Cea, Fernández, & Valenzuela, 2014).

Social dominance. Peer nominations were used at all four occasions to assess social dominance. Students were asked, "Who has the most say in your class?" which corresponds to nominations used

by Vaillancourt and Hymel (2006) to assess perceived power (e.g., "Who is a person other kids will listen to and follow?"), among others. The percentage of nominations received by each classmate was calculated to obtain a continuous measure of the magnitude of social dominance.

Time. To control for change over time, an indicator for each measurement occasion, ranging from one to four, was included.

Gender. Students' self-reports were used to assess gender.

Procedures

A letter was sent to students and parents to inform them about the study and about the voluntary nature of their participation. The letter emphasized that students would never have to provide their names and that data would only be used by the research team. Participating students completed a questionnaire in their classroom setting, and the questionnaire was introduced in detail by trained research assistants. In order to follow individual trajectories across all waves of data collection, a code was used that consisted of stable student characteristics such as dominant writing hand, whether or not they had older siblings, language(s) spoken at home, or whether they had ever repeated a class in primary school.

Statistical Analyses

Before testing the hypotheses, descriptive statistics and correlations for the variables of interest were calculated. In order to obtain appropriate results for the hypotheses tests, the clustering of data within higher level units had to be considered. As variables were measured at different points in time and were nested within individuals who were grouped in classrooms, multilevel models for change (Singer & Willett, 2003) were estimated, where Level 1 = time, Level 2 = students, and Level 3 = classrooms. According to the multilevel model for change, the time-varying outcome was predicted by time-varying independent variables. Hence, in this type of analysis time-varying predictors and moderators are situated on Level 1 (time), while clusters of the dependent variable at higher levels are controlled for (i.e., individuals and classrooms).

When including time-varying independent variables to predict a time-varying outcome, the temporal order of events should be controlled for in a lagged design to avoid reciprocal causation. Therefore, the measures of the independent variables at T1, T2, and T3 were used to predict the dependent variable at T2, T3, and T4. According to this study's hypotheses, in the first model injunctive classroom norms (T1, T2, and T3) were used to predict individual aggressive and delinquent attitudes (T2, T3, and T4). In the second model individual attitudes (T1, T2, and T3) predicted aggressive and delinquent injunctive classroom norms (T2, T3, and T4). When including social dominance as a moderator on the influence of individual attitudes, the social dominance measures assessed at T1, T2, and T3 were used. As an index of change across time, measurement points were included as a predictor in the models. In accordance with the lagged design, this variable referred to the changes in the dependent variable from T2 to T4. Analyses were performed with the software MLwiN 2.32 (Rasbash, Charlton, Browne, Healy, & Cameron, 2009), which uses iterative generalized least squares estimation to account for unbalanced data due to missingness at one or more occasions (Rasbash, Steele, Browne, J, & Goldstein, 2009, p. 192).

Results

Preliminary Analyses

As variables were measured at four time points, the descriptive statistics and correlations correspond to the means of all four occasions. Table 1 shows that the means of the attitudinal measures were low given the possible range (0 to 4), whereas the standard deviations were rather large. This indicates a right-skewed distribution with an overrepresentation of low approval of aggressive and delinquent behaviors. The same distribution was found regarding classroom-aggregated attitudes (i.e., injunctive norms), although the trend is less pronounced. The descriptive statistics of social dominance indicated that, on average, students were nominated by 8.54% of their classmates as having the most say in class. As mentioned above, gender was nearly equally distributed among participants.

Table 1

Descriptive Statistics

	Mean (*SD*)	%	Range
Attitudes towards aggression	0.39 (0.47)	-	0.00 - 4.00
Attitudes towards delinquency	0.45(0.47)	-	0.00 - 4.00
Injunctive classroom norms, aggression	0.39 (0.14)	-	0.08 - 1.08
Injunctive classroom norms, delinquency	0.45 (0.16)	-	0.05 - 1.00
Social dominance (% of received nominations)	8.54 (11.87)	-	0.00-82.67
Boys	-	52.00	-

Note. Mean scores of all four measurement occasions were used for the descriptive statistics.

The Spearman correlations between the key variables are presented in Table 2. The effect sizes of the significant relationships between attitudes and injunctive classroom norms were low for aggression (r = .26) and moderate for delinquency (r = .32). In addition, both behavioral domains were found to correlate significantly with individual social dominance and gender, indicating that increased dominance and male gender were related to higher approval of aggressive and delinquent behaviors. Furthermore, there was a significant but very low correlation between injunctive classroom norms and individual social dominance. As we saw no theoretical reason why individual dominance should be directly related to antisocial norms at the classroom-level, this low correlation was not surprising.

Hypotheses Tests

Descriptive results indicated that the distributions of individual and group-level attitudes were right-skewed. Generally such distributions can pose a problem for correct estimations in statistical models. When using time-varying predictors, however, the important factor for deciding

whether or not coefficient estimates might be biased is the residual distribution on the level of time (Level 1; Maas & Hox, 2004). As the predictors in these analyses were time-varying and the residual distribution on Level 1 was approximately normal, we did not assume biased estimates.

Table 2

Spearman Correlations between Dependent and Independent Variables

Aggression	1	2	3	4
1. Aggressive attitudes	-	.26**	.21**	.22**
2. Injunctive classroom norms, aggression		-	.08*	.05
3. Social dominance (% of received nominations)			-	.20**
4. Gender (girl)[a]				-
Delinquency	1	2	3	4
1. Delinquent attitudes	-	.32**	.22**	.22**
2. Injunctive classroom norms, delinquency		-	.07*	.04
3. Social dominance (% of received nominations)			-	.20**
4. Gender (girls)[a]				-

Note. Mean scores of all four measurement occasions were used for the correlations.
[a]Reference category. *p<.05; **p<.01.

Table 3 reveals the results of the multilevel model for change used to test Hypothesis 1 (i.e., the influence of injunctive classroom norms on individual attitudes). According to the intraclass correlation coefficient (ICC) of the null model, 45.8% of the total variation in aggressive attitudes and 52.7% of the total variation in delinquent attitudes could be ascribed to differences between individuals (Level 2). This indicated that controlling for within-individual clustering across the four measurement occasions was essential for an adequate estimation of coefficients. Only a small amount of the variation was due to clustering within classrooms (2.3% and 4.6%, respectively). However, as the variation between classrooms for delinquency was significant, classroom-level

variance was not removed from the model. Concerning the development of antisocial attitudes, aggressive attitudes decreased from end of Grade 7 to Grade 9, whereas positive attitudes towards delinquency increased over time. Furthermore, boys showed greater approval of aggressive and delinquent behaviors than girls. We used Model 1 to test Hypothesis 1, and results indicated that injunctive classroom norms were a significant predictor of individual attitudes towards aggression and delinquency. The higher the classmates' approval of such behaviors, the more positive individual attitudes were at subsequent measurement points.

Table 3

Multilevel Models for Change Predicting Individual Aggressive and Delinquent Attitudes by Injunctive Classroom Norms

	Aggression		Delinquency	
	Model 0 *B* (*SE*)	Model 1 *B* (*SE*)	Model 0 *B* (*SE*)	Model 1 *B* (*SE*)
Intercept	0.418** (0.022)	0.228** (0.038)	0.494** (0.025)	0.212** (0.039)
Level 1: Time				
Point in time		-0.030* (0.014)		0.042** (0.013)
Injunctive norms		0.308** (0.076)		0.177* (0.070)
Level 2: Individual				
Gender (girl)		0.245** (0.034)		0.247** (0.035)
Variance Components				
Level 1(within individual)	0.202** (0.008)	0.207** (0.008)	0.157** (0.006)	0.157** (0.006)
Level 2 (between individuals)	0.178** (0.013)	0.160** (0.012)	0.194** (0.013)	0.180** (0.012)
Level 3 (between classrooms)	0.009 (0.005)	0.000 (0.000)	0.017 (0.007)	0.010* (0.005)
ICC Level 2	0.458	0.411	0.527	0.519
ICC Level 3	0.023	0.000	0.046	0.029

[a]Reference category.
*p<.05; **p<.01.

Table 4 presents the results of the reverse effect of individual attitudes on classroom norms (i.e., Hypotheses 2 and 3). The null models indicated that the largest amount of variation was due to differences between classrooms (ICC = 51.1% and 65.3%, respectively), whereas there was no variation at the individual level (as the dependent variable was a classroom aggregate of individual values). The coefficient of development over time indicated no significant change in classroom-aggregated norms towards aggression but a significant increase in positive classroom norms towards delinquency. With regards to Hypothesis 2, individual aggressive and delinquent attitudes exerted no influence on injunctive classroom norms when only the main effect was considered (Model 1).

Hypothesis 3 assumed that an individual's influence on classroom norms would be stronger for more socially-dominant students. To test this hypothesis, the interaction between dominance and individual behavior was added to Model 2, but the main effect of social dominance was not. This is an adequate procedure for moderation analyses when there is no theoretical need for including a main effect (Kam & Franzese, 2010, p. 99). Indeed, we saw no convincing reason why individual social dominance should exert influence on injunctive classroom norms as a main effect. Results indicated that there was no significant interaction between individual attitudes towards antisocial behavior and social dominance. Hence, even under conditions of the individual's social dominance, attitudes did not predict classroom norms at a later point in time

Table 4

Multilevel Models for Change Predicting Injunctive Classroom Norms by Individual Aggressive and Delinquent Attitudes

	Aggression			Delinquency		
	Model 0 *B* (*SE)*	Model 1 *B* (*SE*)	Model 2 *B* (*SE)*	Model 0 *B* (*SE)*	Model 1 *B* (*SE*)	Model 2 *B* (*SE)*
Intercept	0.437** (0.021)	0.454** (0.024)	0.455** (0.024)	0.511** (0.025)	0.414** (0.027)	0.414** (0.027)
Level 1: Time						
Point in time		-0.007 (0.004)	-0.007 (0.004)		0.051** (0.003)	0.051** (0.003)
Individual attitudes		-0.008 (0.006)	-0.011 (0.007)		-0.003 (0.005)	-0.003 (0.006)
Individual attitudes * Social dominance			0.000 (0.000)			0.000 (0.000)
Level 2: Individual						
Gender (girl)		0.004 (0.007)	0.004 (0.007)		-0.001 (0.006)	-0.001 (0.006)
Variance Components						
Level 1(within individual)	0.023** (0.001)	0.022** (0.001)	0.022** (0.001)	0.017** (0.001)	0.016 (0.000)	0.016** (0.000)
Level 2 (between individuals)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Level 3 (between classrooms)	0.024** (0.005)	0.027** (0.005)	0.027** (0.005)	0.032** (0.006)	0.035 (0.007)	0.035** (0.007)
ICC Level 2	0.000	0.000	0.000	0.000	0.000	0.000
ICC Level 3	0.511	0.551	0.551	0.653	0.686	0.686

[a]Reference category.
*p<.05; **p<.01.

Discussion

This study contributes to improved understanding of attitude transference, in particular the approval of aggressive and delinquent behaviors among adolescents. Before discussing the findings of our hypothesis tests, some interesting developmental aspects shall be noted.

Results indicate a decrease in positive attitudes towards aggression across lower secondary school yet an increase in positive attitudes towards delinquency. The decrease in positive evaluations towards aggression in adolescence corresponds to the development of overt aggressive behavior and may be related to the fact that inhibitory competence increases with age (Williams, Ponesse, Schachar, Logan, & Tannock, 1999). Furthermore, adolescents may learn to achieve their goals by using a more differentiated repertoire of social problem-solving skills, including prosocial behavior. These processes may also lead to lower approval of aggressive behavior across adolescence. Simultaneously, the weakening of social constraints and the wider range of behavioral freedom associated with this time period corresponds to increasing delinquency. The more adolescents observe and are themselves involved in such activities (e.g., through deviant peer association), the more they develop positive attitudes towards these behaviors. As a result, approval of delinquency increases from early to middle adolescence, as does the behavior itself (Thornberry, 1987; Zhang, Loeber, & Stouthamer-Loeber, 1997). The correspondence between developmental trajectories of attitudes and behavior may be explained by the mutual influence between these two components (e.g., Hansen & McNeal, 2001).

Influence of Injunctive Classroom Norms on Individual Attitudes towards Antisocial Behavior

In order to better understand the development of attitudes towards antisocial behavior under the condition of peer influence, the transference of injunctive classroom norms on individual attitudes was investigated. Findings supported the assumption that injunctive classroom norms at a given time point influence individual attitudes at a later time point (Hypothesis 1). In other words, higher approval of aggressive and delinquent behaviors among classmates predicted higher

subsequent individual approval. This is in line with general theories on peer influence (e.g., Thornberry, 1987) and the assumption that attitude transference occurs between adolescents (Akers, 2009; Burgess & Akers, 1966; Kobayashi, Akers, & Sharp, 2011).

While our findings correspond with previous research that found a relationship between peer group norms and individual attitudes (e.g., Almeida et al., 2009; Henry & Chan, 2010; Silverman & Williamson, 1997), they also extend current knowledge along several dimensions. In terms of methodology, many earlier studies relied on cross-sectional designs, which limited interpretation with regards to developmental processes (e.g., Reeves & Orpinas, 2012). Our longitudinal research design adds credence to the notion that injunctive classroom norms indeed influence individual attitudes, even when controlling for the temporal order of events and change over time (see also Busching & Krahé, 2015; Henry et al., 2000). In addition, by defining injunctive norms as group-level aggregates of attitudes instead of as individual perceptions, the risk of biased estimates of normative context was reduced (see also Busching & Krahé, 2015; Henry & Chan, 2010; Henry et al., 2000). Another advantage was that the students in this study remained in their self-contained classrooms across lower secondary school, which avoided confusing selection and socialization effects (Juvonen & Galván, 2008). Finally, the concept of coolness was assumed to contribute to a valid estimation of attitudes. While earlier studies often relied on evaluations of whether or not behaviors were considered right or wrong (e.g., Reeves & Orpinas, 2012), the use of an affect-related construct may have reduced social desirability bias and confusing attitudes with mere knowledge about which behavior is socially acceptable. While the explanatory power of different measures of attitudes has already been investigated with regards to the relationship between individual attitudes and behavior (e.g., van Goethem, Scholte, & Wiers, 2010), it would also be interesting to look at this issue with regards to attitude transference.

Influence of Individual Attitudes on Injunctive Classroom Norms towards Antisocial Behavior

While the results of Hypothesis 1 replicated former findings and were conceptual and methodological extensions of those findings, to our knowledge Hypotheses 2 and 3 had not yet been examined concerning attitude transference. With regards to interactive processes within peer groups (e.g., Dishion & Tipsord, 2011), it was assumed that not only do group norms influence individual attitudes but that the influence also occurs in the opposite direction, at least for socially-dominant students (Burgess & Akers, 1966; Kobayashi, Akers, & Sharp, 2011). However, individual attitudes towards antisocial behavior did not significantly predict classroom norms, even when social dominance was included as a moderator. There are several possible explanations for this finding. Generally, the expectation of bidirectional impact in communication processes is based on social influence studies focusing on dyads, for example (for an overview, see, e.g., Dishion & Tipsord, 2011). Given that we could not identify individual influence on peer norms in larger groups such as classrooms, it could be that there is a certain threshold group size that allows for the detection of individual influence on the entire group, beyond which detection is difficult. Also, individual influence may be only detectable when focusing solely on those students in a classroom who are truly outstanding in terms of social dominance or other peer-valued characteristics (such as good looks, high verbal competence, etc.). Furthermore, dominant individuals may primarily exert their influence within friendship networks in the classroom, and not within the classroom as a whole. Finally, while one dominant student in a class may be too weak to exert significant influence on all other students' attitudes, the characteristics of *all* socially dominant students in class may collectively have an impact on classroom norms. This assumption is somewhat supported by prior findings, which revealed that individual students tend to adapt their attitudes to match those of groups of high-status students (Cohen & Prinstein, 2006; *Authors*). However, it should be noted that these studies used individual attitudes as the dependent variable, whereas in this study the dependent variable was group norms among all students from a classroom. In conclusion, this study suggests

that an individual is more influenced by the group than the group is influenced by the individual, with regard to antisocial attitudes.

Practical Implications

When capitalizing on the practical relevance of this study's results, the controversy on schooling students with behavioral problems and positive attitudes towards antisocial behavior within regular classrooms can be considered. Many teachers are concerned that these students negatively influence their more prosocial classmates (e.g., Schwab et al., 2012). At the same time, peer influence research lets us expect that being among prosocial classmates, in turn, can have a positive impact on individual students with antisocial tendencies (e.g., Boxer, Guerra, Huesmann, & Morales, 2005; *Authors*). Although this study did not specifically focus on the influence of students with severe behavioral problems and examined attitudes but not behavior, it is nevertheless worth considering the implications of our results regarding both of these assumptions. Keeping the limitations in mind, our findings suggest that it is unlikely that single students change the norms of an entire classroom. This is not to say, however, that individual students with behavioral problems may not wield influence within smaller groups such as classroom cliques, or cause serious disturbances during instruction (Houghton, Wheldall, & Merrett, 1988). With regards to the influence of classroom norms on individuals, our findings suggest that individual students with high approval of antisocial behaviors may experience decreased approval in classrooms where there is a low level of antisocial norms among classmates. Establishing prosocial norms within a classroom, for example by fostering a positive classroom climate, may therefore promise positive effects on reducing individual levels of positive attitudes towards antisocial behavior (see also Sprott, 2004). Again, due to the fact that this study was conducted in a general population sample and the focus was on antisocial attitudes, these propositions should be considered hypotheses in need of further testing.

Limitations and Future Perspectives

Although the current study accounted for several methodological and conceptual issues that were not paid sufficient attention in prior studies, there are several limitations that should be addressed in future investigations. Regarding normative context, the attitudes of all students in a classroom were assessed and aggregated to create a collective measure of injunctive norms. While this represents a commonly used procedure to obtain group-level measures, the congruency of group members' attitudes may also play a role when predicting individual development (Shaffer, 1983). For example, more congruent individual responses may go hand in hand with increased group pressure (*Authors*). It is thus important for future studies to consider how the notion of within-congruency of group-level attitudes should be operationalized and how this affects the influence of group norms (see also Yudron, Jones, & Raver, 2014).

Furthermore, as was pointed out, the mechanisms of peer influence within a group are complex and difficult to assess. Although the present investigation tried to represent temporal sequences and changes over time through the use of four data collection time points, it was still impossible to consider direct interactions between students. Observational studies that focus specifically on social interactions between group members (such as deviant talk) might shed some light on these processes, by adding social interaction variables as mediators between peer group norms and individual attitudes. Finally, attitude transference remains just one of several facets of the development of antisocial behavior. Hence, to investigate this matter in its entirety, future studies may examine how peer group norms, which are transferred to individuals, promote concrete antisocial acts and result in problems within the social environment.

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